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SSS38-P27 Room:Convention Hall Time:May 24 15:30-17:00

# Slow slip events and large thrust earthquakes triggered by afterslip in the Hyuganada region

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Slow slip events were detected after the December 1996 earthquake in the deeper region of the postseismic slip area with a recurrence interval of approximately 2 years with the durations of 0.5-1 year [Yarai et al.]. Three slow slip events have been detected since 2005.

We proposed a model of numerical simulation for the coexistence of afterslip for ˜M7 earthquake and slow slip events in the Hyuganada region of Japan with the 3D geometry of the Philippine Sea plate [Nakata et al., 2011, SSJ]. While coseismic events are reproduced by the slip law, recurrence of slow slip events are qualitatively reproduced by using the slowness law even in the velocity range of afterslips and slow slip events, in addition to characteristic slip distances larger than seismic source. In our simulation, afterslip triggered a slow slip event, which was unidentified in geodetic observation. After the triggered slow slip event, spontaneous slow slip events occurred in the same area. Furthermore, a large earthquake was triggered in the slow slip event area by postseismic slip.

In this study, we compare the spatial and temporal distributions of stress, strength, and slip velocity before a triggered slow slip event and an earthquake with a sampling interval of one day. As a result, the triggering of either a slow slip event or an earthquake through postseismic slip is determined by slight differences in stress and strength around the source.

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